

FIGURE 1

SEQ ID NO:1 Human CAMKII- α nucleic acid sequence

The sequence in bold and italic was used for transcribing the riboprobe in Example 1.

```
ttcaggatgg ctaccatcac ctgcacccgc ttcacggaag agtaccagct cttcgaggaa
61  ttgggcaagg gagccttctc ggtggtgcga aggtgtgtga aggtgctggc tggccaggag
121  tatgtgccca agatcatcaa cacaagaag ctgtcagcca gagaccatca gaagctggag
181  cgtgaagccc gcatctgccg cctgctgaag caccccaaca tcgtccgact acatgacagc
241  atctcagagg agggacacca ctacctgac ttcgacctgg tctactggtgg ggaactgttt
301  gaagatatcg tggcccggga gtattacagt gaggcgatg ccagtcactg tatccagcag
361  atcctggagg ctgtgctgca ctgccaccag atgggggtgg tgcaccggga cctgaagcct
421  gagaatctgt tgctggcctc caagctcaag ggtgccgcag tgaagctggc agactttggc
481  ctggccatag aggtggaggg ggagcagcag gcatggtttg ggtttgagg gactcctgga
541  tatctctccc cagaagtgtc gcggaaggac ccgtacggga agcctgtgga cctgtgggct
601  tgtggggtca tctgtacat cctgctgggt gggtacccc cgttctggga tgaggaccag
661  caccgcctgt accagcagat caaagccggc gcctatgatt tcccatcgcc ggaatgggac
721  actgtcacc cgaagccaa ggatctgac aataagatgc tgaccattaa cccatccaaa
781  cgcatacac ctgccgaagc ccttaagcac ccctggatct cgcaccgctc caccgtggca
841  tcttgcattg acagacagga gaccgtggac tgcctgaaga agttcaatgc caggaggaaa
901  ctgaaggag ccattctcac cacgatgctg gccaccagga acttctccgg agggaagagt
961  gggggaaaca agaagagcga tgggtgtgaag aaaagaaagt ccagttccag cgttcagtta
1021 atggaatcct cagagagcac caacaccacc atcgaggatg aagacaccaa agtgcgga
1081 caggaaatta taaaagtgac agagcagctg attgaagcca taagcaatgg aggttttgag
1141 tcctacacga agatgtgcga cectggcatg acagccttcg aacctgaggc cctggggaac
1201 ctgggttgagg gcctggactt ccatacgattc tattttgaaa acctgtggtc ccggaacagc
1261 aagcccgtgc acaccaccat cctgaatccc cacatccacc tgatgggcga cgagtcagcc
1321 tgcatacgct acatccgcat caccgagtac ctggacgctg gcggcatccc acgcaccgcc
1381 cagtcggagg agaccctgt ctggcaccgc cgggacggca aatggcagat cgtccacttc
1441 cacagatctg gggcgccctc cgtcctgccc cattgaagga ccaggccagg gtcaa
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FIGURE 2

SEQ ID NO:2 Human CAMKII- α Amino acid sequence

1 MATITCTRFT EEYQLFEELG KGAFSVVRR VKVLAGQEYA AKIINTKKLS ARDHQKLERE
61 ARICRLLKHP NIVRLHDSIS EEGHHYLIFD LVTGGELFED IVAREYYSEA DASHCIQQIL
121 EAVLHCHQMG VVHRDLKPEN LLLASKLKGA AVKLADFGLA IEVEGEQQAW FGFAGTPGYL
181 SPEVLRKDPY GKPVDLWACG VILYILLVGY PPFWDEDQHR LYQQIKAGAY DFPSPEWDTV
241 TPEAKDLINK MLTINPSKRI TAAEALKHPW ISHRSTVASC MHRQETVDCL KKFNARRKLK
301 GAILTTMLAT RNFSGGKSGG NKKSDGVKKR KSSSSVQLME SSESTNTTIE DEDTKVRKQE
361 IIKVTEQLIE AISNGGFESY TKMCDPGMTA FEPEALGNLV EGLDFHRFYF ENLWSRNSKP
421 VHTTILNPHI HLMGDESACI AYIRITQYLD AGGIPRTAQS EETRVWHRRD GKWQIVHFHR
481 SGAPSVLPH

FIGURE 3

SEQ ID NO:3: Human TBR1 Nucleic acid sequence (NCBI Accession NM 006593)

The sequence in bold and italic was used for transcribing the riboprobe in Example 1.

```
1   caggtgatta tcctaattaa tgtctatcta attaaattac tgtcagcagc taaccaatgg
61  caggagccgt ttcateggct gcacaagcag caagatcaaa agtgagcctt ttctgattgc
121 tgcatagtgt caattggcca atctcttctc ccagggaaaa aaaaaagtaa atcaaaccctt
181 tgagaagcat ttgctggttg aagtgccttc tgtctagtga gggggctctgt ggattttctag
241 tttatgataa ataggacttt aaaaaccagg gacgggaggg cgagtgttca ggttctagag
301 ctatgcagct ggagcactgc ctttctcctt ctatcatgct ctccaagaaa tttctcaatg
361 tgagcagcag ctaccacat tcaggcggat ccgagcttgt cttgcacgat catcccatta
421 tctcgaccac tgacaacctg gagagaagtt cacctttgaa aaaaattacc aggggggatga
481 cgaatcagtc agatacagac aattttcctg actccaagga ctcaccaggg gacgtccaga
541 gaagtaaact ctctcctgtc ttggacgggg tctctgagct tcgtcacagt ttcgatggct
601 ctgctgcaga tcgctacctc ctctctcagt ccagccagcc acagtctgcg gccactgctc
661 ccagtgccat gttcccgtac cccggccagc acggaccggc gcaccccgcc ttctccatcg
721 gcagccctag ccgctacatg gccaccacc cggctcatcac caacggagcc tacaacagcc
781 tcctgtccaa ctcctcgccg cagggatacc ccacggccgg ctacccttac ccacagcagt
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901 tgcccggcaa agcacaggtg tacctgtgca acaggcccct ttggctgaaa tttcaccggc
961 accaaacgga gatgatcatc accaaacagg gaaggcgcat gtttcctttt ttaagtttta
1021 acatttctgg tctcgatccc acggctcatt acaatatattt tgtggatgtg attttggcgg
1081 atcccaatca ctggagggtt caaggaggca aatgggttcc ttgcggcaaa gcggacacca
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1201 tgcgccaaaga aatctctttt ggaaaattaa aacttacgaa caacaaagga gcttcaaata
1261 acaatgggca gatggtggtt ttacagtcct tgcacaagta ccagccccgc ctgcatgtgg
1321 tggaagtgaa cgaggacggc acggaggaca ctagccagcc cggccgcgtg cagacgttca
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1561 tgcccggggc ccgctacgcc atggccggct ctttcttgca ggaccagttc gtgagcaact
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1681 gcgtgccgca caccaacggg ctgctgtcgc cgcagcaggc cgaggaccgc ggcgcgcctt
1741 cgccgcaacg ctggtttgtg acgcccggca acaaccggct ggacttcgcg gcctcggcct
1801 atgacacggc cacggacttc gcgggcaacg cggccacgct gctctcttac gcggcggcgg
1861 gcgtgaaggc gctgcgcgtg caggctgcag gctgcactgg ccgcccgcgc ggctactacg
1921 ccgacccgctc gggctggggc gcccgcagtc ccccgagta ctgcggcacc aagtcgggct
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1981 cgggtgctgcc ctgctggccc aacagcgccg cggccgcccgc gcgcatggcc ggcgccaatc
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2101 ccgccgagga cgccaagccc aaggacctgt ccgattccag ctggatcgag acgccctcct
2161 cgatcaagtc catcgactcc agcgactcgg ggatttacga gcaggccaag cggaggcgga
2221 tctcgccggc cgacacgccc gtgtccgaga gttcgtcccc gctcaagagc gaggtgctgg
2281 cccagcgggg ctgcgagaag aactgcgcca aggacattag cggctactat ggcttctact
2341 cgcacagcta ggccgcccct gcccgcccgg ccccgccgcg gcccggaacc ccagccagcc
2401 cctcacagct cttccccagc tccgcctccc cacactcctc cttgcgcacc cactcatttt
2461 atttgaccct cgatggccgt ctgcagcgaa taagtgcagg tctccgagcg tgattttaac
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2581 ttgggttttcc tacttactct tcttctgtgg agttatcctc ctacaattcc cctccccctc
2641 gtctttctct tacctcctac ttctctttct tgtaatgaaa ctcttcacct ttaggagacc
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2761 cataggatgt tgactctaga acctggaccc acccagcgcg tcccttctta tccccgagtg
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3001 tctcatactt tctcttctct ctcttttaat tttcttgtga gataatattc taagaggctc
3061 tagaaacatg aaatactcag tagtgatggg tttcccactt ctcctcaatc cgttgcatga
3121 aataattact atgtgcccta atgcacacaa atagctaagg agaatccacc caaacacctt
3181 taaagg

FIGURE 4

SEQ ID NO:4 Human TBR1 Amino acid sequence

1 MQLHCLSPS IMLSKKFLNV SSSYPHSGGS ELVLHDHPH STTDNLERSS PLKKITRGMT
61 NQSDTDNFPD SKDSPGDVQR SKLSPVLDGV SELRHSFDGS AADRYLLSQS SQPQSAATAP
121 SAMFPYPGQH GPAHPAFSIG SPSRYMAHHP VITNGAYNSL LSNSSPQGYP TAGYPYPQQY
181 GHSYQGAPFY QFSSTQPGLV PGKAQVYLCN RPLWLKFHRH QTEMIITKQG RRMFPFLSFN
241 ISGLDPTAHY NIFVDVILAD PNHWRFFQGGK WVPCGKADTN VQGNRVYMHP DSPNTGAHWM
301 RQEISFGKLLK LTNNKGASNN NGQMVVLQSL HKYQPRLHV EVNEDGTEDT SQPGRVQTFT
361 FPETQFIAVT AYQNTDITQL KIDHNPFAKG FRDNYDTIYT GCDMDRLTPS PNDSPRSQIV
421 PGARYAMAGS FLQDQFVSNY AKARFHPGAG AGPGPGTDRS VPHTNGLLSP QQAEDPGAPS
481 PQRWFVTPAN NRLDFAASAY DTATDFAGNA ATLLSYAAAG VKALPLQAAG CTGRPLGYA
541 DPSGWGARSP PQYCGTKSGS VLPCWPNSAA AAARMAGANP YLGEEAEGLA AERSPLPPGA
601 AEDAKPKDLS DSSWIETPSS IKSIDSSDSG IYEQAKRRRI SPADTPVSES SSPLKSEVLA
661 QRDCEKNCAK DISGYYGfYS HS

Figure 5

CAMKII- α mRNA Levels in 6 Layers of Dorsolateral Prefrontal Cortex
(DLPFC in the Brains of Bipolar patients and Normal Controls)

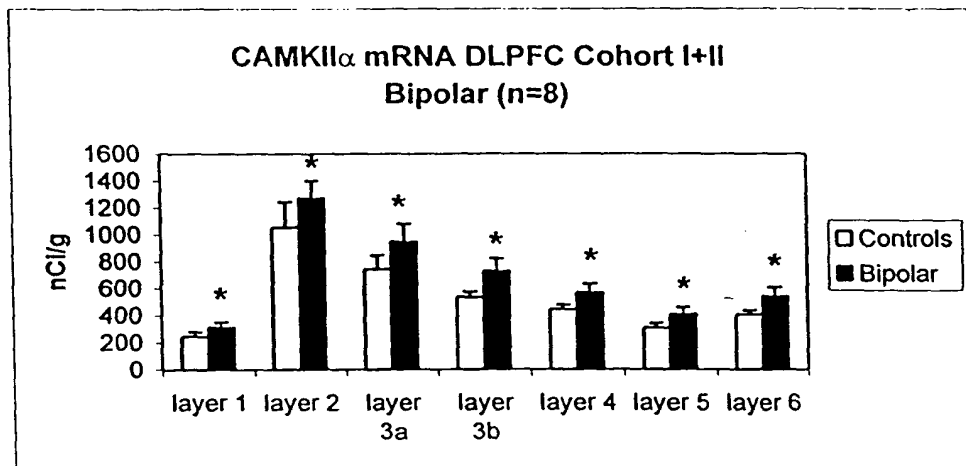


Figure 6

TBR1 mRNA Levels in 6 Layers of Dorsolateral Prefrontal Cortex (DLPFC) in the Brains of Bipolar patients and Normal Controls

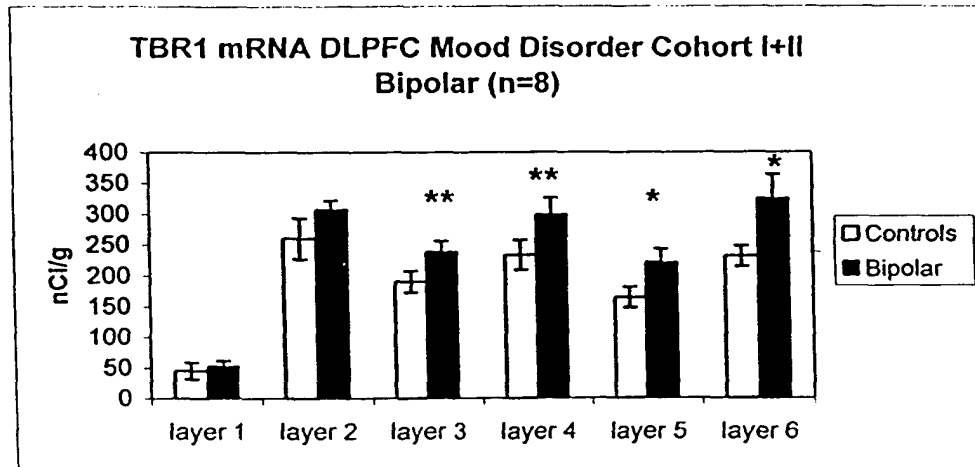


Figure 7

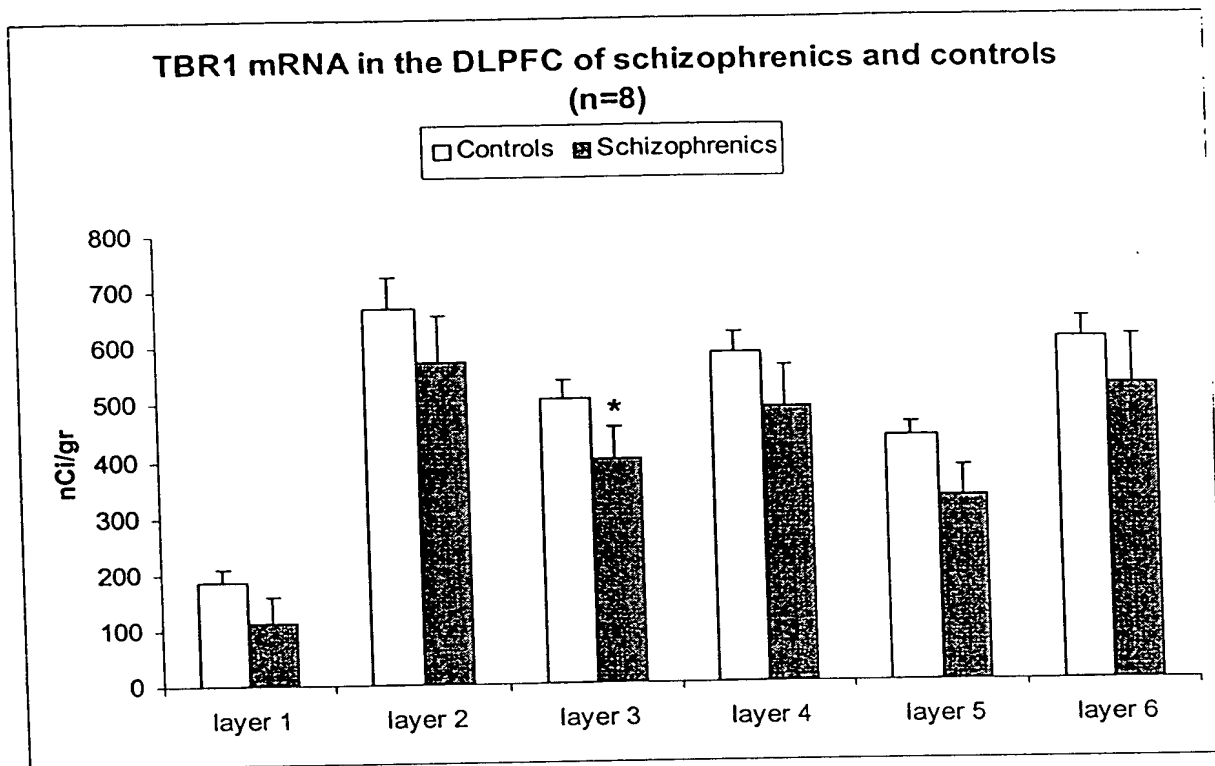


Figure 8

CAMK I nucleotide and amino acid sequence

SEQ ID NO:5

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1 ggagagagcc gccgagccga gccgagcccc agctccagca agagcgcggg cgggtggccc
61 aggcacgcag cggtagggac cgcggccaca gctcggcgcc aaccaccgcg ggcctcccag
121 ccagccccgc ggcggggcag ccgcaggagc cctggctgtg gtcggggggc agtggggccat
181 gctgggggca gtggaaggcc ccagggtgaa gcaggcgag gacattagag acatctacga
241 cttccgagat gttctgggca cgggggcctt ctcggaggtg atcctggcag aagataagag
301 gacgcagaag ctggtggcca tcaaatgcat tgccaaggag gccctggagg gcaagggaagg
361 cagcatggag aatgagattg ctgtcctgca caagatcaag caccccaaca ttgtagccct
421 ggatgacatc tatgagagtg gggggccacct ctacctatc atgcagctgg tgtcgggtgg
481 ggagctcttt gaccgtattg tggaaaaagg cttctacacg gagcgggacg ccagccgcct
541 catcttcag gtgctggatg ctgtgaaata cctgcatgac ctgggcattg tacaccggga
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661 cgactttggc ctctccaaga tggaggaccc gggcagtggt ctctccaccg cctgtggaac
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841 gaatgatgcc aaactctttg aacagatttt gaaggccgag tacgagtttg actctcctta
901 ctgggacgac atctctgact ctgcccaga tttcatccg cacttgatgg agaaggaccc
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1081 caagtggaag caagccttca atgccacggc tgtggtgcgg cacatgagga aactgcagct
1141 gggcaccagc caggaggggc aggggcagac ggcgagccat ggggagctgc tgacaccagt
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1381 cctgtccccc cctcacctgc ttccctacca ctccctactg cattttccat acaaatgttt
1441 ctattttatt gttccttctt gtaataaagg gaagataaaa caaaaaaaaa aaaaaaaaaa
1501 a

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SEQ ID NO:6

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DSKIMISDFGLSKMEDPGSVLSTACGTPGYVAPEVLAQKPYSKAVDCWSIGVIAIYILLCGYPPFYDENDAKLFEQIL
KAEYEFDSPYWDDISDAKDFIRHLMKDPKRFTEQALQHPWIAGDTALDKNIHQSVSEQIKKNFAKSKWKQAFN
ATAVVRHMRKLQLGTSQEGGQTASHGELLTPVAGGPAAGCCCRDCCVEPGTELSPTLPHQL"

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